THAT WHICH IS CLAIMED:

1. A weld joint comprising:

at least one structural member defining first and second faying surfaces in an opposed configuration and defining an interface therebetween;

a weld joint extending through the interface and connecting the first and second faying surfaces of the at least one structural member; and

a sealant disposed in the interface and being diffusion bonded to the faying surfaces, the sealant comprising aluminum and germanium and being characterized by a melting temperature that is lower than the melting temperature of the at least one structural member.

2. A weld joint according to Claim 1 wherein the at least structural member comprises first and second substantially parallel members defining the faying surfaces respectively, and the weld joint extends substantially perpendicular through the interface of the faying surfaces.

3. A weld joint according to Claim 1 wherein the weld joint comprises a nugget area formed by friction stir welding and characterized by a refined granular structure.

4. A weld joint according to Claim 1 wherein the sealant comprises at least one of the group consisting of strontium, silver, and silicon.

5. A weld joint according to Claim 1 wherein the sealant is cathodic relative to the at least one structural member.

6. A weld joint according to Claim 1 wherein the sealant is characterized by a melting temperature less than about 500 °C.

7. A weld joint according to Claim 1 wherein the sealant is characterized by a melting temperature of about 420 °C.

8. A weld joint according to Claim 1 wherein the sealant comprises between about 10% and 51.6% germanium by weight.

9. A weld joint according to Claim 1 wherein the sealant comprises about 51.6% germanium and about 48.4% aluminum by weight.

10. A weld joint according to Claim 1 wherein the sealant comprises about 30.2% germanium, about 36.8% silver, and about 33% aluminum by weight.

11. A weld joint according to Claim 1 wherein the sealant substantially fills the interface.

12. A sealant for sealing an interface between faying surfaces of at least one structural member that is friction welded, the sealant comprising:

a composition of aluminum and germanium being cathodic relative to the at least one structural member and being characterized by a melting temperature that is lower than the melting temperature of the at least one structural member such that the sealant can be melted and bonded to the faying surfaces as the at least one structural member is friction welded.

13. A sealant according to Claim 12 wherein the sealant is characterized by a melting temperature less than about 500 °C.

14. A sealant according to Claim 12 wherein the sealant is characterized by a melting temperature of about 420 °C.

15. A sealant according to Claim 12 wherein the sealant comprises between about 10% and 51.6% germanium by weight.

16. A sealant according to Claim 12 wherein the sealant further comprises at least one of the group consisting of strontium, silver, and silicon.

17. A sealant according to Claim 12 wherein the sealant comprises about 51.6% germanium and about 48.4% aluminum by weight.

18. A sealant according to Claim 12 wherein the sealant comprises about 30.2% germanium, about 36.8% silver, and about 33% aluminum by weight.

19. A method of sealing a weld joint, the method comprising:

disposing a sealant on at least one of first and second faying surfaces of at least one structural member, the sealant comprising aluminum and germanium and being characterized by a melting temperature that is lower than the melting temperature of the at least one structural member;

positioning the faying surfaces in an opposing configuration to form an interface therebetween; and

welding the at least one structural member to form a weld joint extending through the interface and thereby heating the sealant to such that the sealant bonds with the at least one structural member proximate to the weld joint.

20. A method according to Claim 19 wherein said welding step comprises heating the sealant to at least a melting temperature of the sealant.

21. A method according to Claim 19 wherein said welding step comprises heating at least some of the sealant to a temperature no greater than a melting temperature of the sealant and thereby diffusion bonding the sealant to the at least one structural member.

22. A method according to Claim 19 further comprising providing the at least one structural member comprising aluminum.

23. A method according to Claim 19 further comprising providing the sealant comprising about 51.6% germanium and about 48.4% aluminum by weight.

24. A method according to Claim 19 further comprising providing the sealant comprising about 30.2% germanium, about 36.8% silver, and about 33% aluminum by weight.

25. A method according to Claim 19 further comprising providing the sealant comprising at least one of the group consisting of strontium, silver, and silicon.

26. A method according to Claim 19 further comprising providing the sealant being cathodic relative to the at least one structural member.

27. A method according to Claim 19 wherein said disposing step comprises plasma spraying the sealant onto the faying surfaces.

28. A method according to Claim 19 wherein said disposing step comprises disposing the sealant in a thickness of between about 0.001 and 0.003 inches.

29. A method according to Claim 19 wherein said disposing step comprises disposing the sealant on both of the first and second faying surfaces.

30. A method according to Claim 19 wherein said welding step comprises rotating a friction stir welding pin extending from a shoulder and urging the pin through the interface to thereby friction stir weld the at least one structural member.

31. A method according to Claim 30 wherein said positioning step comprises overlapping the faying surfaces to form the interface having a width about equal to the width of the shoulder.